

AMENDMENTS TO THE CLAIMS

This listing of the claims replaces all prior versions, and listings of the claims in the application:

1. (Currently Amended) A method of upgrading a pressure generating system ~~medical device~~ comprising:

providing a pressure generating system including (a) a pressure generator adapted to generate a flow of breathing gas and ~~medical device~~ having (b) a controller that controls operation of the ~~medical device~~ pressure generator according to an operating routine executed by the controller, wherein a set of operating features of the pressure generating system ~~medical device~~ is determined based on the operating routine, and wherein an internal access key is associated with each set of operating features of the pressure generating system ~~medical device~~;

providing an external device adapted to communicate with the controller;

establishing a communication link between the external device and the controller;

inputting an external access key to the external device;

comparing the internal access key provided by the pressure generating system ~~medical device~~ with the external access key; and

enabling upgrading of the pressure generating system ~~medical device~~ by enabling the operating routine to be modified responsive to the internal access key matching the external access key;

~~upgrading the pressure generating system by causing the controller to execute a second operating so that the pressure generating system operates according to a second set of operating features;~~

~~maintaining a database for a plurality of pressure generating systems, wherein the database includes (a) a product identifier unique to each pressure generating system in the plurality of pressure systems, (b) operating routines available to each pressure generating system in the plurality of pressure generating systems, and (c) external access keys associated with each operating routine; and~~

updating the database by assigning a new product identifier for an upgraded pressure generating system.

Claim 2. Cancelled.

3. (Currently Amended) The method of claim 21, ~~further comprising, after the enabling step, wherein upgrading the medical device by pressure generating system includes providing a~~ the second operating routine from the external device to the controller, ~~wherein the controller thereafter executes the second operating routine causing the pressure support system to operate according to a second set of operating features.~~

4. (Currently Amended) The method of claim 31, wherein the first set of operating features includes a first pressure support mode, and wherein the second set of operating features includes a second pressure support mode.

5. (Currently Amended) The method of claim 4, wherein (a) the first pressure support mode is a bi-level pressure support mode, and ~~wherein the second pressure support mode is a bi-level pressure support mode with a timed backup breath delivery capability, or (b) the first pressure support mode is a continuous positive airway pressure (CPAP) support mode and the second support mode is a variable positive airway pressure support mode in which the pressure delivered to the patient varies between inspiration and expiration.~~

6. (Original) The method of claim 1, wherein establishing the communication link includes providing a hard wired connection between the external device and the controller.

7. (Original) The method of claim 1, wherein inputting the external access key to the external device includes manually entering the external access key into the external device

via a keypad associated with the external device, or reading the external access key from a memory associated with the external device.

8. (Original) The method of claim 1, further comprising downloading the external access key to the controller responsive to the internal access key being input to the external device, and wherein comparing the internal access key with the external access key takes place in the controller.

9. (Currently Amended) The method of claim 1, wherein each internal access key associated with each set of operating features of the pressure generating system ~~medical device~~ is (1) generated by the controller based on an access key generating algorithm each time the comparing step is to be performed, or (2) stored in advance in a memory in the pressure generating system ~~medical device~~ and recalled from the memory each time the comparing step is to be performed.

Claim 10. Cancelled.

11. (Currently Amended) The method of claim 10, wherein each internal access key associated with each set of operating features of the pressure generating system ~~medical device~~ is generated by the controller based on an access key generating algorithm each time the comparing step is to be performed, and further comprising storing the external access key in the pressure generating system ~~medical device~~ as a new internal access key, and causing the controller to generate the new internal access key in a subsequent access key validation process.

12. (Currently Amended) A pressure generating system ~~medical device~~ upgrading system, comprising
a pressure generating systems ~~medical device~~ including (a) a pressure generator adapted to generate a flow of breathing gas, and (b) a controller that controls operation of the

pressure generator or medical device according to an operating routine executed by the controller and a memory associated with the controller that stores the operating routine, wherein a set of operating features of the medical device pressure generating system is determined based on the operating routine, and wherein an internal access key is associated with each set of operating features of the medical device pressure generating system; and

an external device adapted to communicate with the controller via a communication link between the external device and the controller, wherein the external device is adapted to receive an external access key, and wherein the controller or the external device compares the internal access key of the medical device pressure generating system with the external access key and enables upgrading of the medical device pressure generating system by enabling modifying the operating routine to be modified responsive to the internal access key matching the external access key; and

a database for a plurality of pressure generating systems, wherein the database includes (a) a product identifier unique to each pressure generating system in the plurality of pressure systems, (b) operating routines available to each pressure generating system in the plurality of pressure generating systems, and (c) external access keys associated with each operating routine, and wherein the database is updated to assign a new product identifier for an upgraded pressure generating system.

Claim 13. Cancelled.

14. (Currently Amended) The system of claim 13, wherein the controller is adapted to receive a second operating routine from the external device responsive to the external access key matching the internal access key, and wherein the controller thereafter executes the second operating routine causing the pressure support system to operate according to a second set of operating features.

15. (Currently Amended) The system of claim 14, wherein (a) the first set of operating features corresponds to a bi-level pressure support mode, and wherein the second set of operating features corresponds to a bi-level pressure support mode with a timed backup breath delivery capability or (b) the first pressure support mode is a continuous positive airway pressure (CPAP) support mode and the second support mode is a variable positive airway pressure support mode in which the pressure delivered to the patient varies between inspiration and expiration.

16. (Original) The system of claim 12, wherein the communication link is a hard wired connection between the external device and the controller.

17. (Original) The system of claim 12, wherein the external device includes a keypad by which the external access key is manually entered into the external device.

18. (Original) The system of claim 12, wherein the external device is adapted to download the external access key to the controller, and wherein comparing the internal access key with the external access key takes place in the controller.

19. (Original) The system of claim 12, wherein the controller is adapted to generate each internal access key associated with each set of operating features of the medical device based on an access key generating algorithm executed by the controller each time an access key validation is required.

20. (Currently Amended) The system of claim 12, wherein the external device upgrades the medical device pressure generating system by providing an upgraded operating routine from the external device to the controller responsive to an upgrade being enabled, and wherein the controller thereafter executes the upgraded operating routine causing the medical device pressure generating system to operate according to an upgraded set of operating features.

21. (Currently Amended) The system of claim 20, wherein the controller generates each internal access key associated with each set of operating features of the ~~medical devicepressure generating system~~ based on an access key generating algorithm each time an access key validation is required, stores the external access key in the ~~medical devicepressure generating system~~ as a new internal access key, and generates the new internal access key in a subsequent access key validation process.

22. (Currently Amended) A ~~medical devicepressure generating system~~ upgrading system comprising:

(a) a ~~medical devicepressure generating system~~ including:

(1) a pressure generator adapted to generate a flow of breathing gas,

(2) processing means for controlling at least one operation of the ~~medical devicepressure generator~~ according to an operating routine executed by the processing means, and

(3) memory means, associated with the processing means, for storing the operating routine, wherein a set of operating features of the ~~medical devicepressure generating system~~ is determined based on the operating routine, and wherein an internal access key is associated with each set of operating features of the ~~medical devicepressure generating system~~; and

(b) an external device adapted to communicate with the processing means via a communication link between the external device and the processing means, wherein the external device includes means for receiving an external access key, wherein the processing means or the external device includes means for comparing the internal access key of the ~~medical devicepressure generating system~~ with the external access key and for enabling upgrading of the ~~medical devicepressure generating system~~ by enabling modifying the operating routine to be modified responsive to the internal access key matching the external access key; and

(c) a database for a plurality of pressure generating systems, wherein the database includes (1) a product identifier unique to each pressure generating system in the plurality of pressure systems, (2) operating routines available to each pressure generating system in the plurality of pressure generating systems, and (3) external access keys associated with each operating routine, and wherein the database is updated to assign a new product identifier for an upgraded pressure generating system.

Claim 23. Cancelled..

24. (Currently Amended) The system of claim 23, wherein the processing means is adapted to receive a second operating routine from the external device responsive to the external access key matching the internal access key, and wherein the processing means thereafter executes the second operating routine causing the pressure support system to operate according to a second set of operating features.

25. (Currently Amended) The system of claim 24, wherein (a) the first set of operating features corresponds to a bi-level pressure support mode, and wherein the second set of operating features corresponds to a bi-level pressure support mode with a timed backup breath delivery capability or (b) the first pressure support mode is a continuous positive airway pressure (CPAP) support mode and the second support mode is a variable positive airway pressure support mode in which the pressure delivered to the patient varies between inspiration and expiration.

26. (Original) The system of claim 22, wherein the communication link is a hard wired connection between the external device and the processing means.

27. (Original) The system of claim 22, wherein the external device includes a keypad by which the external access key is manually entered into the external device.

28. (Original) The system of claim 22, wherein the external device is adapted to download the external access key to the processing means, and wherein comparing the internal access key with the external access key takes place in the processing means.

29. (Original) The system of claim 22, wherein the processing means is adapted to generate each internal access key associated with each set of operating features of the medical device based on an access key generating algorithm executed by the processing means each time an access key validation is required.

30. (Currently Amended) The system of claim 22, wherein the external device upgrades the medical device pressure generating system by providing an upgraded operating routine from the external device to the processing means responsive to an upgrade being enabled, wherein the processing means thereafter executes the upgraded operating routine causing the medical device pressure generating system to operate according to an upgraded set of operating features.

31. (Currently Amended) The system of claim 30, wherein the processing means generates each internal access key associated with each set of operating features of the medical device pressure generating system based on an access key generating algorithm each time an access key validation process is to be performed, stores the external access key in the medical device pressure generating system as a new internal access key, and generates the new internal access key in a subsequent access key validation process.

32. (Currently Amended) A method of processing and tracking an upgrade of a medical device pressure generating system, comprising:
identifying a medical device pressure generating system to be upgraded;

providing an upgrade request from an upgrade requester to a ~~medical device pressure generating system~~ supplier, wherein the upgrade request includes a first product identifier associated with the ~~medical device pressure generating system~~ to be upgraded and a requested upgrade of the ~~medical device pressure generating system~~;

maintaining a database ~~for a plurality of pressure generating systems~~, available to the ~~medical device pressure generating system~~ supplier, ~~wherein the database that includes~~(a) the first product identifier for the ~~medical device each pressure generating system in the plurality of pressure generating systems~~, (b) upgrades available to each pressure generating system in the ~~plurality of pressure generating systems~~, and (c) an external access keys associated with both the ~~medical device pressure generating system~~ and an available upgrade ~~for that pressure generating system~~;

accessing the database, by the ~~medical device pressure generating system~~ supplier, to determine an external access key associated with both the ~~medical device pressure generating system~~ to be upgraded and the requested upgrade;

providing the external access key to the ~~medical device pressure generating system~~;

comparing the external access key with an internal access key associated with the ~~medical device pressure generating system~~;

~~enabling an upgrading of the medical device pressure generating system responsive to the internal access key matching the external access key; and~~

~~updating the database to indicate that the medical device pressure generating system having the first product identifier has been upgraded with the desired upgrade by assigning a new product identifier for an upgraded pressure generating system.~~

33. (Currently Amended) The method of claim 32, wherein providing the external access key to the ~~medical device pressure generating system~~ includes providing the desired upgrade to the upgrade requester via a distribution media or a electronic communication link.

34. (Original) The method of claim 33, wherein providing the external access key and the desired upgrade includes providing the external access key on a first medium and providing the desired upgrade on a second medium.

35. (Currently Amended) The method of claim 32, wherein comparing the external access key with an internal access key takes place in the ~~medical devicepressure generating system~~ to be upgraded.

36. (Currently Amended) The method of claim 32, wherein updating the database includes providing a second product identifier associated with the ~~medical devicepressure generating system~~.

37. (Currently Amended) The method of claim 32, wherein the ~~medical devicepressure generating system~~ includes a controller that controls operation of the ~~medical devicepressure generating system~~ according to an operating routine executed by the controller, wherein a set of operating features of the ~~medical devicepressure generating system~~ is determined based on the operating routine, wherein the internal access key is associated with each set of operating features of the ~~medical devicepressure generating system~~; and

wherein providing the external access key to the ~~medical devicepressure generating system~~ comprises:

- providing an external device adapted to communicate with the controller, establishing a communication link between the external device and the ~~medical devicepressure generating system~~, and inputting an external access key to the external device.

38. (Currently Amended) The method of claim 37, further comprising, after the enabling step, upgrading the ~~medical devicepressure generating system~~ by providing an upgraded

operating routine from the external device to the controller, wherein the controller thereafter executes the upgraded operating routine causing the ~~medical devie~~pressure generating system to operate according to an upgraded set of operating features.

39. (Currently Amended) The method of claim 38, further comprising providing the upgraded set of operating features to the external device from the ~~medical devie~~pressure generating system supplier.

40. (Currently Amended) The method of claim 38, wherein each internal access key associated with each set of operating features of the ~~medical devie~~pressure generating system is generated by the controller based on an access key generating algorithm each time the comparing step is to be performed, and further comprising storing the external access key in the ~~medical devie~~pressure generating system as a new internal access key, and causing the controller to generate the new internal access key in a subsequent access key validation process.

41. (Currently Amended) The method of claim 37, wherein the ~~medical devie~~pressure generating system is a pressure support system comprising a pressure generating system adapted to generate a flow of breathing gas, wherein the controller executes a first operating routine to control the operation of the pressure generating system according to a first set of operating features.

42. (Currently Amended) The method of claim 41, further comprising, after the enabling step, upgrading the ~~medical devie~~pressure generating system by providing a second operating routine from the external device to the controller, wherein the controller thereafter executes the second operating routine causing the pressure support system to operate according to a second set of operating features.

43. (Original) The method of claim 42, wherein the first set of operating features includes a first pressure support mode, and wherein the second set of operating features includes a second pressure support mode.

44. (Original) The method of claim 43, wherein (a) the first pressure support mode is a bi-level pressure support mode, and wherein the second pressure support mode is a bi-level pressure support mode with a timed backup breath delivery capability or (b) the first pressure support mode is a continuous positive airway pressure (CPAP) support mode and the second support mode is a variable positive airway pressure support mode in which the pressure delivered to the patient varies between inspiration and expiration.

45. (Original) The method of claim 37, wherein establishing a communication link includes providing a hard wired connection between the external device and the controller.

46. (Original) The method of claim 37, wherein inputting an external access key to the external device includes manually entering the external access key into the external device via a keypad associated with the external device, or reading the external access key from a memory associated with the external device.

47. (Original) The method of claim 37, wherein comparing the internal access key with the external access key takes place in the controller.

48. (Currently Amended) The method of claim 37, wherein each internal access key associated with each set of operating features of the medical device pressure generating system is (1) generated by the controller based on an access key generating algorithm each time the comparing step is to be performed, or (2) stored in advance in the medical device pressure generating system and recalled from memory each time the comparing step is to be performed.

49. (Currently Amended) A method for a medical devicepressure generating system supplier to process and track an upgrade of a medical devicepressure generating system:
receiving, from an upgrade requester, an upgrade request including first product identifier associated with the medical devicepressure generating system and a desired upgrade;
maintaining a database for a plurality of pressure generating systems, available to the medical devicepressure generating system supplier, that wherein the database includes (a) the first product identifier for each pressure generating system in the plurality of pressure generating systems, (b) upgrades available to each pressure generating system in the plurality of pressure generating systems the medical device and (c) an external access keys associated with both the medical devicepressure generating system and an available upgrade for that pressure generating system;
accessing the database, by the medical devicepressure generating system supplier, responsive to receiving the upgrade request, to determine an external access key associated with both the medical devicepressure generating system to be upgraded and the desired upgrade based on the first product identifier;
providing, from the medical devicepressure generating system supplier to the upgrade requester, the external access key associated with the medical devicepressure generating system and the desired upgrade so that the upgrade requester can introduce the upgrade to the medical devicepressure generating system responsive to the external access key matching an internal access key associated with the medical devicepressure generating system; and
updating the database to indicate that the medical devicepressure generating system has been upgraded with the desired upgrade by assigning a new product identifier for an upgraded pressure generating system.

50. (Original) The method of claim 49, wherein providing the external access key and the desired upgrade includes providing the external access key in a first medium and the desired upgrade in a second medium.

51. (Currently Amended) The method of claim 49, wherein updating the database includes providing a second product identifier associated with the ~~medical device~~pressure generating system.